Remarks

Applicants request entry of the amendments and reexamination of the application. On even date, applicants submit a Request for Extension of Time and fee.

In response to the statements at page 4 of the Office Action, Applicants have amended the first line after the title of the specification to insert the appropriate claim to priority. Applicants note that this application is entitled to and properly claims the benefit of French application FR 00 01980, filed February 17, 2000, as the filing date of this application is the next succeeding business day after February 17, 2001.

In response to the statements at page 2 of the Office Action, the specification has been amended to insert the references to SEQ ID NOs where appropriate. In addition, grammatical errors have been corrected at page 34.

The Drawings have also been amended to add the reference to SEQ ID NOs, as requested by the Examiner. Two Replacement Sheets are attached. In addition, a number of typographical errors in the English translation document have been corrected in Figures 6 and 7. Attached are annotated drawing sheets of the original drawings, showing which amino acid residues have been corrected, as well as a copy of the originally filed Figures 6 and 7 (filed in the French language).

The following tables also indicate where the corrections have been made in Figures 6 and 7. Since the amendment to the drawings merely puts Figures 6 and 7 into the same state as in the originally filed Figures 6 and 7, no new matter enters with these changes.

Figure 6, pLY111fullA Protein (SEQ ID NO. 48)

English Translation	Original French Language Application (filed 02/20/00)	Corresponding Amino Acid Position
E	F	182
O	Q	204
O	Q	224
E	F	279
R	H	315
E	F	318
E	F	374
C	G	489
S	C	507

Figure 7, pLY111bfullB Protein (SEQ ID NO. 50)

English Translation	Original French Language Application (filed 02/20/00)	Corresponding Amino Acid Position
C	G	138
T	Y	267
C	G	404
E	F	469
O	Q	523
O	Q	525

Applicants also submit herewith a corrected Sequence Listing, which adds the SEQ ID NOs 47-50, which were all disclosed in the Figures of the original application but not submitted in a Sequence Listing. The corrected Sequence Listing also incorporates the corrections to the typographical errors noted above.

Claims 32-33, 37-42, 53, and 59 are currently amended. Amended claim 32 recites a peptide comprising all or part of the amino acid sequence of SEQ ID NO: 2. This language is specifically included at page 7, line 27, through page 8, line 2 of the specification. Specific examples of fragments or parts of SEQ ID NO: 2 are also given in SEQ ID NOs 13, 15, 43, and 45, as stated in the specification. Furthermore, Figures 6 and 7, among others, specifically point out particular domains of the sequence that can form fragments or parts of SEQ ID NO: 2. Claim 33 is amended to clearly set forth that inhibition is one of the ways a compound can modulate the interaction with parkin. Amended claims 40-41 clarify the subject matter as either an isolated peptide or polypeptide, as both terms are used in the specification (*see, for example,* page7 lines 19-26). The remaining amendments correct dependency and make the claims consistent with independent claim 32.

No new matter enters by these amendments.

Rejection under 35 U.S.C. § 101

Claim 38 stands rejected under 35 U.S.C. § 101 as allegedly not supported by either specific or substantial asserted utility. Applicants respectfully disagree.

The PTO specifically points to the term "non-functional" as the reason for this rejection. However, the amended claim does not recite a compound that is non-functional. Rather, it recites a compound, which is a peptide, that contains an effector region that has been rendered non-functional. The specification refers to the domain of interaction with parkin protein (*see* page 7, for example), and the fact that certain central regions of parkin are involved with that interaction. Thus, the PAP1 protein disclosed has some specific binding effect with regard to parkin. A change in the sequence of a peptide or protein, for example, would create partial interaction and lead to partial inhibitors of the binding activity (*see* specification at page 9). In light of the disclosure in the specification of how to create such changes, applicants respectfully submit that one of skill in the art would have no reason to doubt that a substantial and specific utility exists for the subject matter of claim 39 and amended claim 39.

Applications request withdrawal of this rejection.

Rejections under 35 U.S.C. § 112, First Paragraph

Claim 38 is rejected under 35 U.S.C. § 112, first paragraph, for the reasons listed in the rejection under §101. As noted above, applicants have asserted that a substantial utility does exist for the invention of claim 38, as one of ordinary skill in the art would read the claim. Furthermore, the utility as a partial inhibitor of parkin or the ability of proteins to bind to parkin is specifically noted at page 9 of the specification.

Applicants request withdrawal of this rejection.

Claims 32-42, 53, and 59 stand rejected under 35 U.S.C. § 112, first paragraph, for allegedly containing subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors had possession of it. Applicants respectfully disagree.

The PTO refers to the "genus of PAP1 polypeptides" at page 6 of the Office Action. As now recited in claim 32, these claims refer to a peptide comprising all or a part of the amino acid sequence of SEQ ID NO: 2. Applicants submit that the specification clearly

describes peptides that are "part of" SEQ ID NO: 2, at for example, page 7, line 30, where SEQ ID NO: 13, 15, 43, and 45 are specifically noted. Furthermore, the examples describe how one of skill in the art is aware of the testing of these peptides to determine an interaction with parkin and between PAP1 and parkin. Examples 3 and 5, in particular, show how one of skill in the art can identify a compound able to interact with the central region of parkin, which can be used to modulate the interaction between PAP1 protein and parkin. With this knowledge from the specification and the disclosed zinc finger domains and the C_2 domains of the PAP1 sequence, specifically disclosed in the Figures, one of skill in the art would reasonably have understood what fragment or parts of SEQ ID NO: 2 could be used and/or modified and expect a modulation of the interaction with parkin.

Thus, the specification provides to one of skill in the art the actual sequence of SEQ ID NO: 2, actual fragments of SEQ ID NO: 2; and sequence comparisons from which one could create additional fragments or parts of SEQ ID NO: 2. In addition, the sequence similarity noted at Table 5, page 33, and to synaptogamins (*see* page 29, line 28), the RIM/Rabphiline family and granulophilins (*see* page 35, line 3) would provide additional reasons for one to understand the many fragments or parts of SEQ ID NO: 2 that can be created and used. With this information, one of skill in the art would not require a comprehensive list of the parts of SEQ ID NO: 2 that can be used in order to understand that the inventors indeed had possession of them.

Applicants request reconsideration and withdrawal of this rejection.

Claims 32-42, 53, and 59 stand rejected under 35 U.S.C. § 112, first paragraph, for allegedly failing to enable a person of skill in the art to make and use the invention.

The PTO specifically notes that the specification is enabling for SEQ ID NO: 2. Amended claim 32 recites a compound that is a peptide comprising all or part of the amino acid sequence of SEQ ID NO: 2. Obviously, once one is presented with the knowledge that SEQ ID NO: 2 can be used to interact with parkin, a fragment or part of SEQ ID NO: 2 can be used in the same way. Furthermore, claim 32 recites the functional language relating to the specific interaction with parkin, which the specification details how to detect and identify (*see* Examples 3 and 5). The PTO seems to suggest that testing to detect and identify the parts of SEQ ID NO: 2 that specifically interact with parkin would require "painstaking experimental study" (*see* page 8 of the Office Action). On the contrary, the type of testing

required here would be merely routine as applicants have already identified the assays to perform and the fact that numerous samples can be tested at once using the yeast two-hybrid system. In this case, cloning, systematic sequence modification, and testing in a yeast two-hybrid assay can only be considered routine, even if it is "painstaking."

Applicants respectfully request reconsideration and withdrawal of this rejection.

Rejections under 35 U.S.C. § 112, Second Paragraph

Claims 32-33 stand rejected under 35 U.S. C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention.

Applicants have amended claim 32 and 33. Amended claim 33 no longer recites the contradictory language noted at page 8 of the Office Action.

Applicants respectfully request withdrawal of this rejection.

Claim 59 stands rejected under 35 U.S.C. § 112, second paragraph, for allegedly failing to particularly point out and distinctly claim the subject matter.

Applicants have amended claim 59 to include a "carrier," as suggested by the Examiner at page 8 of the Office Action.

Applicants request withdrawal of this rejection.

Rejections under 35 U.S.C. § 102

Claims 32-42, 53, and 59 stand rejected under 35 U.S.C. § 102(e) as allegedly anticipated by Tang (WO 01/46256). Applicants respectfully disagree.

Claim 32 recites a compound capable of specific interaction with parkin. The Office Action points to no statement or suggestion in Tang that relates to an interaction with parkin. For this reason, Tang cannot anticipate the claimed invention.

The Office Action asserts that the sequences of Tang "inherently" meet the limitations of the claims. However, the Office Action states that the polypeptide of Tang "is nearly identical" to the PAP1 of SEQ ID NO: 2 of this application. Applicants respectfully request that the Patent Office specifically set forth the argument on how relevant the "nearly identical" aspect of the Tang sequence is to an inherency argument here. The Tang sequence is clearly a truncation of the sequence of SEQ ID NO: 2 of this application.

In addition, no evidence has been provided to necessarily conclude that the polypeptide of Tang possesses the claimed characteristics of claim 32. Without some evidence of the asserted inherent characteristic of the Tang polypeptide, there is no evidence that one of skill in the art would recognize the obviously missing descriptive matter that could lead to a *prima facie* case of anticipation. This failure is further complicated by the lack of any explanation as to why the admitted differences in the Tang sequence lead one of skill in the art to conclude that the sequence of Tang do NOT possess the characteristics recited in claim 32, for example.

With respect to claims 39-42, applicants again request clarification of the statement that the Tang document discusses a sequence "nearly identical" to applicants' SEQ ID NO: 2. Without some explanation as to why the admitted differences between Tang and the claimed invention are not significant, applicants cannot reasonably respond to this rejection. Further, the Patent Office has not met its burden in demonstrating a *prima facie* case by presenting evidence of anticipation or showing clear anticipation. An allegation that the document inherently anticipates does not support a *prima facie* case on its own.

Applicants respectfully submit that the Patent Office has failed to present a *prima facie* case of anticipation and request withdrawal of this rejection.

Claims 32-34, 53, and 59 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by Stratagene Catalog 1991. Applicants respectfully disagree.

The Stratagene Catalog does not discuss or disclose the peptide comprising all or part of the amino acid sequence of SEQ ID NO: 2. Thus, the Stratagene Catalogue cannot anticipate the claimed invention.

This rejection should be withdrawn.

The application is in condition for allowance. Timely notification of allowability is requested.

If there are any additional fees due with the filing of this document, including fees for the net addition of claims, applicants respectfully request that any and all fees be charged to Deposit Account No. 50-1129. If any extension of time request or any petition is required for the entry of this paper or any of the accompanying papers, applicants hereby petition or

request the extension necessary. The undersigned authorizes any fee payment from Deposit Account No. 50-1129.

Respectfully submitted,

Wiley Rein & Fielding LLP

Date: August 20, 2003 By: _____

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Facsimile: 202.719.7049

WRFMAIN 12112246.1

Ly111b-full A : the transcript (SEQ ID NO: 47)

AATGGAAGGGCGTGAGCGCTTGGTCCATGCAGTGAAGCTCTTCCAACCTGGGTCAACGAAAACG
GAGAAGAAATGGCCCAAGAAATAGATCTGAGTGCTCTCAAGGAGTTAGAACGCGAGGCCATTCT
CCAGGTCCTGTACCGAGACCAGGCGGTTCAAAACACAGAGGAGGAGAGGACACGGAAACTGAAA
ACACACCTGCAGCATCTCCGGTGGAAAGGAGCGAAGAACACGGACTGGGAGCACAAAGAGAAGT
GCTGTGCGCGCTGCCAGCAGGTGCTGGGGTTCCTGCTGCACCGGGGCGCCGTGTGCCGGGGCTG
CAGCCACCGCGTGTGTGCCCAGTGCCGAGTGTTCCTGAGGGGGACCCATGCCTGGAAGTGCACG
GTGTGCTTCGAGGACAGGAATGTCAAAATAAAAACTGGAGAATGGTTCTATGAGGAACGAGCCA
AGAAATTTCCAACTGGAGGCAAACATGAGACAGTTGGAGGGCAGCTCTTGCAATCTTATCAGAA
GCTGAGCAAAATTTCTGTGGTTCCTCCTACTCCACCTCCTGTCAGCGAGAGCCAGTGCAGCCGC
AGTCCTGGCAGGTTACAGGAATTTGGTCAGTTTAGAGGATTTAATAAGTCCGTGGAAAATTTGT
TTCTGTCTCTTGCTACCCACGTGAAAAAGCTCTCCAAATCCCAGAATGATATGACTTCTGAGAA
GCATCTTCTCGCCACGGGCCCCAGGCAGTGTGTGGGACAGACAGAGAGACGGAGCCAGTCTGAC
ACTGCGGTCAACGTCACCACCAGGAAGGTCAGTGCACCAGATATTCTGAAACCTCTCAATCAAG
AGGATCCCAAATGCTCTACTAACCCTATTTTGAAGCAACAGAATCTCCCATCCAGTCCGGCACC
CAGTACCATATTCTCTGGAGGTTTTAGACACGGAAGTTTAATTAGCATTGACAGCACCTGTACA
GAGATGGGCAATTTTGACAATGCTAATGTCACTGGAGAAATAGAATTTGCCATTCATTATTGCT
TCAAAACCCATTCTTTAGAAATATGCATCAAGGCCTGTAAGAACCTTGCCTATGGAGAAGAAAA
GAAGAAAAAGTGCAATCCGTATGTGAAGACCTACCTGTTGCCCGACAGATCCTCCCAGGGAAAG
CGCAAGACTGGAGTCCAAAGGAACACCGTGGACCCGACCTTTCAGGAGACCTTGAAGTATCAGG
TGGCCCCTGCCCAGCTGGTGACCCGGCAGCTGCAGGTCTCGGTGTGGCATCTGGGCACGCTGGC
CCGGAGAGTGTTTCTTGGAGAAGTGATCATTCCTCTGGCCACGTGGGACTTTGAAGACAGCACA
ACACAGTCCTTCCGCTGGCATCCGCTCCGGGCCAAGGCGGAGAAATACGAAGACAGCGTTCCTC
AGAGTAATGGAGAGCTCACAGTCCGGGCTAAGCTGGTTCTCCCTTCACGGCCCAGAAAACTCCA
AGAGGCTCAAGAAGGGACAGATCAGCCATCACTTCATGGTCAACTTTGTTTGGTAGTGCTAGGA
GCCAAGAATTTACCTGTGCGGCCAGATGGCACCTTGAACTCATTTGTTAAGGGCTGTCTCACTC
TGCCAGACCAACAAAAACTGAGACTGAAGTCGCCAGTCCTGAGGAAGCAGGCTTGCCCCCAGTG
GAAACACTCATTTGTCTTCAGTGGCGTAACCCCAGCTCAGCTGAGGCAGTCGAGCTTGGAGTTA
ACTGTCTGGGATCAGGCCCTCTTTGGAATGAACGACCGCTTGCTTGGAGGAACCAGACTTGGTT
CAAAGGGAGACACAGCTGTTGGCGGGGATGCATGCTCACAATCGAAGCTCCAGTGGCAGAAAGT
CCTTTCCAGCCCCAATCTATGGACAGACATGACTCTTGTCCTGCACTGACATGAAGGCCTCAAG
GTTCCAGGTTGCAGCAGGCGTGAGG

pLy111b-full A : the protein (SEQ ID NO: 48)

MAQEIDLSALKELEREAILQVLYRDQAVQNTEEERTRKLKTHLQHLRWKGAKNTDWEHKEKCCARCQQVLGFLLHRG 77
AVCRGCSHRVCAQCRVFLRGTHAWKCTVCFEDRNVKIKTGEWFYEERAKKFPTGGKHETVGGQLLQSYQKLSKISVV 154
PPTPPPVSESQCSRSPGRLQEFGQFRGFNKSVENLFLSLATHVKKLSKSQNDMTSEKHLLATGPRQCVGQTERRSQS 231
DTAVNVTTRKVSAPDILKPLNQEDPKCSTNPILKQQNLPSSPAPSTIQEGGFRHGSLISIDSTCTEMGNFDNANVTG 308
EIEFAIHYGFKTHSLEICIKACKNLAYGEEKKKKCNPYVKTYLLPDRSSQGKRKTGVQRNTVDPTFQETLKYQVAPA 385
QLVTRQLQVSVWHLGTLARRVFLGEVIIPLATWDFEDSTTQSFRWHPLRAKAEKYEDSVPQSNGELTVRAKLVLPSR 462
PRKLQEAQEGTDQPSLHGQLCLVVLGAKNLPVRPDGTLNSFVKGCLTLPDQQKLRLKSPVLRKQACPQWKHSFVFSG 539
VTPAQLRQSSLELTVWDQALFGMNDRLLGGTRLGSKGDTAVGGDACSQSKLQWQKVLSSPNLWTDMTLVLH 610

Figure 6

Ly111b-fullB : the transcript (SEQ ID NO: 49)

AATGGAAGGGCGTGAGCGCTTGGTCCATGCAGTGAAGCTCTTCCAACCTGGGTCAACGAAAA
CGGAGAAGAAATGGCCCAAGAAATAGATCTGAGTGCTCTCAAGGAGTTAGAACGCGAGGCCA
TTCTCCAGGTCCTGTACCGAGACCAGGCGGTTCAAAACACAGAGGAGGAGAGGACACGGAAA
CTGAAAACACACCTGCAGCATCTCCGGTGGAAAGGAGCGAAGAACACGGACTGGGAGCACAA
AGAGAAGTGCTGTGCGCGCTGCCAGCAGGTGCTGGGGTTCCTGCTGCACCGGGGCGCCGTGT
GCCGGGGCTGCAGCCACCGCGTGTGTGCCCAGTGCCGAGTGTTCCTGAGGGGGACCCATGCC
TGGAAGTGCACGGTGTGCTTCGAGGACAGGAATGTCAAAATAAAAACTGGAGAATGGTTCTA
TGAGGAACGAGCCAAGAAATTTCCAACTGGAGGCAAACATGAGACAGTTGGAGGGCAGCTCT
TGCAATCTTATCAGAAGCTGAGCAAAATTTCTGTGGTTCCTCCTACTCCACCTCCTGTCAGC
GAGAGCCAGTGCAGCCGCAGTCCTGGCAGGAAGGTCAGTGCACCAGATATTCTGAAACCTCT
CAATCAAGAGGATCCCAAATGCTCTACTAACCCTATTTTGAAGCAACAGAATCTCCCATCCA
GTCCGGCACCCAGTACCATATTCTCTGGAGGTTTTAGACACGGAAGTTTAATTAGCATTGAC
AGCACCTGTACAGAGATGGGCAATTTTGACAATGCTAATGTCACTGGAGAAATAGAATTTGC
CATTCATTATTGCTTCAAAACCCATTCTTTAGAAATATGCATCAAGGCCTGTAAGAACCTTG
CCTATGGAGAAGAAAAGAAGAAAAAGTGCAATCCGTATGTGAAGACCTACCTGTTGCCCGAC
AGATCCTCCCAGGGAAAGCGCAAGACTGGAGTCCAAAGGAACACCGTGGACCCGACCTTTCA
GGAGACCTTGAAGTATCAGGTGGCCCCTGCCCAGCTGGTGACCCGGCAGCTGCAGGTCTCGG
TGTGGCATCTGGGCACGCTGGCCCGGAGAGTGTTTCTTGGAGAAGTGATCATTCCTCTGGCC
ACGTGGGACTTTGAAGACAGCACAACACAGTCCTTCCGCTGGCATCCGCTCCGGGCCAAGGC
GGAGAAATACGAAGACAGCGTTCCTCAGAGTAATGGAGAGCTCACAGTCCGGGCTAAGCTGG
TTCTCCCTTCACGGCCCAGAAAACTCCAAGAGGCTCAAGAAGGGACAGATCAGCCATCACTT
CATGGTCAACTTTGTTTGGTAGTGCTAGGAGCCAAGAATTTACCTGTGCGGCCAGATGGCAC
CTTGAACTCATTTGTTAAGGGCTGTCTCACTCTGCCAGACCAACAAAAACTGAGACTGAAGT
CGCCAGTCCTGAGGAAGCAGGCTTGCCCCCAGTGGAAACACTCATTTGTCTTCAGTGGCGTA
ACCCCAGCTCAGCTGAGGCAGTCGAGCTTGGAGTTAACTGTCTGGGATCAGGCCCTCTTTGG
AATGAACGACCGCTTGCTTGGAGGAACCAGACTTGGTTCAAAGGGAGACACAGCTGTTGGCG
GGGATGCATGCTCACAATCGAAGCTCCAGTGGCAGAAAGTCCTTTCCAGCCCCAATCTATGG
ACAGACATGACTCTTGTCCTGCACTGACATGAAGGCCTCAAGGTTCCAGGTTGCAGCAGGCG
TGAGG

pLy111b-fullB : the protein (SEQ ID NO: 50)

MAQEIDLSALKELEREAILQVLYRDQAVQNTEEERTRKLKTHLQHLRWKGAKNTDWEHKEKCCARCQQVLGFLLHRG 77
AVCRGCSHRVCAQCRVFLRGTHAWKCTVCFEDRNVKIKTGEWFYEERAKKFPTGGKHETVGGQLLQSYQKLSKISVV 154
PPTPPPVSESQCSRSPGRKVSAPDILKPLNQEDPKCSTNPILKQQNLPSSPAPSTIFSGGFRHGSLISIDSTCTEMG 231
NFDNA**NVTGEIEFAIHYCFKTHSLEICIKACKNLAYGEEKKKKCNPYVKTYLLPDRSSQGKRKTGVQRNTVDPTFQE** 308
TLKYQVAPAQLVTRQLQVSVWHLGTLARRVFLGEVIIPLATWDFEDSTTQSFRWHPLRAKAEKYEDSVPQSNGELTV 385
RAKLV*LPSRPRKLQEAQEGTDQPSLHGQLCLVVLGAKNLPVRPDGTLNSFVKGCLTLPDQQKLRLKSPVLRKQACPQ* 462
*WKHSFVFSGVTPAQLRQSSLELTVWDQALFGMNDRLLGGTRLGSKGDTAVGGDACSQSKLQWQKVLSS*PNLWTDMTL 539
VLH 542

Figure 7

Originally filed sheet

Ly111b-full1A : le transcrit

AATGGAAGGGCGTGAGCGCTTGGTCCATGCAGTGAAGCTCTTCCAACCTGGGTCAACGAAAACG
GAGAAGAAATGGCCCAAGAAATAGATCTGAGTGCTCTCAAGGAGTTAGAACGCGAGGCCATTCT
CCAGGTCCTGTACCGAGACCAGGCGGTTCAAAACACAGAGGAGGAGAGGACACGGAAACTGAAA
ACACACCTGCAGCATCTCCGGTGGAAAGGAGCGAAGAACACGGACTGGGAGCACAAAGAGAAGT
GCTGTGCGCGCTGCCAGCAGGTGCTGGGGTTCCTGCTGCACCGGGGCGCCGTGTGCCGGGGCTG
CAGCCACCGCGTGTGTGCCCAGTGCCGAGTGTTCCTGAGGGGGACCCATGCCTGGAAGTGCACG
GTGTGCTTCGAGGACAGGAATGTCAAAATAAAAACTGGAGAATGGTTCTATGAGGAACGAGCCA
AGAAATTTCCAACTGGAGGCAAACATGAGACAGTTGGAGGGCAGCTCTTGCAATCTTATCAGAA
GCTGAGCAAAATTTCTGTGGTTCCTCCTACTCCACCTCCTGTCAGCGAGAGCCAGTGCAGCCGC
AGTCCTGGCAGGTTACAGGAATTTGGTCAGTTTAGAGGATTTAATAAGTCCGTGGAAAATTTGT
TTCTGTCTCTTGCTACCCACGTGAAAAAGCTCTCCAAATCCCAGAATGATATGACTTCTGAGAA
GCATCTTCTCGCCACGGGCCCCAGGCAGTGTGTGGGACAGACAGAGAGACGGAGCCAGTCTGAC
ACTGCGGTCAACGTCACCACCAGGAAGGTCAGTGCACCAGATATTCTGAAACCTCTCAATCAAG
AGGATCCCAAATGCTCTACTAACCCTATTTTGAAGCAACAGAATCTCCCATCCAGTCCGGCACC
CAGTACCATATTCTCTGGAGGTTTTAGACACGGAAGTTTAATTAGCATTGACAGCACCTGTACA
GAGATGGGCAATTTTGACAATGCTAATGTCACTGGAGAAATAGAATTTGCCATTCATTATTGCT
TCAAAACCCATTCTTTAGAAATATGCATCAAGGCCTGTAAGAACCTTGCCTATGGAGAAGAAAA
GAAGAAAAAGTGCAATCCGTATGTGAAGACCTACCTGTTGCCCGACAGATCCTCCCAGGGAAAG
CGCAAGACTGGAGTCCAAAGGAACACCGTGGACCCGACCTTTCAGGAGACCTTGAAGTATCAGG
TGGCCCCTGCCCAGCTGGTGACCCGGCAGCTGCAGGTCTCGGTGTGGCATCTGGGCACGCTGGC
CCGGAGAGTGTTTCTTGGAGAAGTGATCATTCCTCTGGCCACGTGGGACTTTGAAGACAGCACA
ACACAGTCCTTCCGCTGGCATCCGCTCCGGGCCAAGGCGGAGAAATACGAAGACAGCGTTCCTC
AGAGTAATGGAGAGCTCACAGTCCGGGCTAAGCTGGTTCTCCCTTCACGGCCCAGAAAACTCCA
AGAGGCTCAAGAAGGGACAGATCAGCCATCACTTCATGGTCAACTTTGTTTGGTAGTGCTAGGA
GCCAAGAATTTACCTGTGCGGCCAGATGGCACCTTGAACTCATTTGTTAAGGGCTGTCTCACTC
TGCCAGACCAACAAAAACTGAGACTGAAGTCGCCAGTCCTGAGGAAGCAGGCTTGCCCCCAGTG
GAAACACTCATTTGTCTTCAGTGGCGTAACCCCAGCTCAGCTGAGGCAGTCGAGCTTGGAGTTA
ACTGTCTGGGATCAGGCCCTCTTTGGAATGAACGACCGCTTGCTTGGAGGAACCAGACTTGGTT
CAAAGGGAGACACAGCTGTTGGCGGGGATGCATGCTCACAATCGAAGCTCCAGTGGCAGAAAGT
CCTTTCCAGCCCCAATCTATGGACAGACATGACTCTTGTCCTGCACTGACATGAAGGCCTCAAG
GTTCCAGGTTGCAGCAGGCGTGAGG

pLy111b-full1A : la protéine

MAQEIDLSALKELEREAIILQVLYRDQAVQNTEEERTRKLKTHLQHLRWKGAKNTDWEHKEKCCARCQQVLGFLLHRG
AVCRGCSHRVCAQCRVFLRGTHAWKCTVCFEDRNVKIKTGEWFYEERAKKFPTGGKHETVGGQLLQSYQKLSKISVV
PPTPPPVSESQCSRSPGRLQEFGQFRGFNKSVENLFLSLATIIVKKLSKSQNDMTSEKHLLATGPRQCVGQTERRSQS
DTAVNVTTRKVSAPDILKPILNQFDPKCSTNPILKQQNLPSSPAPSTIFSGGFRHGSLISIDSTCTEMGNFDNANVTG
EIEFAIHYCFKTHSLEICIKACKNLAYGEEKKKKCNPYVKTYLLPDRSSQGKRKTGVQRNTVDPTFQETLKYQVAPA
QLVTRQLQVSVWHLGTLARRVFLGEVIIPLATWDFEDSTTQSFRWHPLRAKAEKYEDSVPQSNGELTVRAKLVLPSR
PRKLQEAQFGTDQPSILHGQICLVVLGAKNLPVRPDGTLNSFVKGCLTLPDQQKLRLKSPVLRKQACPQWKHSFVFSG
VTPAQLRQSSLELTVWDQALFGMNDRLLGGTRLGSKGDTAVGGDACSQSKLQWQKVLSSPNLWTDMTLVLH

FIGURE 6

Originally filed sheet

Ly111b-fullB : le transcrit

AATGGAAGGGCGTGAGCGCTTGGTCCATGCAGTGAAGCTCTTCCAACCTGGGTCAACGAAAA
CGGAGAAGAAATGGCCCAAGAAATAGATCTGAGTGCTCTCAAGGAGTTAGAACGCGAGGCCA
TTCTCCAGGTCCTGTACCGAGACCAGGCGGTTCAAAACACAGAGGAGGAGAGGACACGGAAA
CTGAAAACACACCTGCAGCATCTCCGGTGGAAAGGAGCGAAGAACACGGACTGGGAGCACAA
AGAGAAGTGCTGTGCGCGCTGCCAGCAGGTGCTGGGGTTCCTGCTGCACCGGGGCGCCGTGT
GCCGGGGCTGCAGCCACCGCGTGTGTGCCCAGTGCCGAGTGTTCCTGAGGGGGACCCATGCC
TGGAAGTGCACGGTGTGCTTCGAGGACAGGAATGTCAAAATAAAAACTGGAGAATGGTTCTA
TGAGGAACGAGCCAAGAAATTTCCAACTGGAGGCAAACATGAGACAGTTGGAGGGCAGCTCT
TGCAATCTTATCAGAAGCTGAGCAAAATTTCTGTGGTTCCTCCTACTCCACCTCCTGTCAGC
GAGAGCCAGTGCAGCCGCAGTCCTGGCAGGAAGGTCAGTGCACCAGATATTCTGAAACCTCT
CAATCAAGAGGATCCCAAATGCTCTACTAACCCTATTTTGAAGCAACAGAATCTCCCATCCA
GTCCGGCACCCAGTACCATATTCTCTGGAGGTTTTAGACACGGAAGTTTAATTAGCATTGAC
AGCACCTGTACAGAGATGGGCAATTTTGACAATGCTAATGTCACTGGAGAAATAGAATTTGC
CATTCATTATTGCTTCAAAACCCATTCTTTAGAAATATGCATCAAGGCCTGTAAGAACCTTG
CCTATGGAGAAGAAAAGAAGAAAAAGTGCAATCCGTATGTGAAGACCTACCTGTTGCCCGAC
AGATCCTCCCAGGGAAAGCGCAAGACTGGAGTCCAAAGGAACACCGTGGACCCGACCTTTCA
GGAGACCTTGAAGTATCAGGTGGCCCCTGCCCAGCTGGTGACCCGGCAGCTGCAGGTCTCGG
TGTGGCATCTGGGCACGCTGGCCCGGAGAGTGTTTCTTGGAGAAGTGATCATTCCTCTGGCC
ACGTGGGACTTTGAAGACAGCACAACACAGTCCTTCCGCTGGCATCCGCTCCGGGCCAAGGC
GGAGAAATACGAAGACAGCGTTCCTCAGAGTAATGGAGAGCTCACAGTCCGGGCTAAGCTGG
TTCTCCCTTCACGGCCCAGAAAACTCCAAGAGGCTCAAGAAGGGACAGATCAGCCATCACTT
CATGGTCAACTTTGTTTGGTAGTGCTAGGAGCCAAGAATTTACCTGTGCGGCCAGATGGCAC
CTTGAACTCATTTGTTAAGGGCTGTCTCACTCTGCCAGACCAACAAAAACTGAGACTGAAGT
CGCCAGTCCTGAGGAAGCAGGCTTGCCCCCAGTGGAAACACTCATTTGTCTTCAGTGGCGTA
ACCCCAGCTCAGCTGAGGCAGTCGAGCTTGGAGTTAACTGTCTGGGATCAGGCCCTCTTTGG
AATGAACGACCGCTTGCTTGGAGGAACCAGACTTGGTTCAAAGGGAGACACAGCTGTTGGCG
GGGATGCATGCTCACAATCGAAGCTCCAGTGGCAGAAAGTCCTTTCCAGCCCCAATCTATGG
ACAGACATGACTCTTGTCCTGCACTGACATGAAGGCCTCAAGGTTCCAGGTTGCAGCAGGCG
TGAGG

pLy111b-fullB : la protéine

MAQEIDLSALKELEREAILQVLYRDQAVQNTEEERTRKLKTHLQHLRWKGAKNTDWEHKEKCQARQQQVLGFLLHRG
AVQRQCSHRVQAQCRVFLRGTHAWKCTVCFEDRNVKIKTGEWFYEERAKKFPTGGKHETVGGQLLQSYQKLSKISVV
PPTPPPVSESQCSRSPGRKVSAPDILKPLNQEDPKCSTNPILKQQNLPSSPAPSTIFSGGFRHGSLISIDSTCTEMG
NFDNANVTGEIEFAIHYCFKTHSLEICIKACKNLAYGEEKKKKCNPYVKTYLLPDRSSQGKRKTGVQRNTVDPTFQE
TLKYQVAPAQLVTRQLQVSVWHLGTLARRVFLGEVIIPLATWDFEDSTTQSFRWHPLRAKAEKYEDSVPQSNGELTV
RAKLVLPSRPRKLQEAQEGTDQPSLHGQLCLVVLGAKNLPVRPDGTLNSFVKGCLTLPDQQKLRLKSPVLRKQACPQ
WKHSFVFSGVTFAQLRQSSLELTVWDQALFGMNDRLLGGTRLGSKGDTAVGGDACSQSKLQWQKVLSSPNLWTDMTL
VLE

Figure 7